

CLAIMS

1. A method of associating in computer memory
 - (i) a digital electronic version of printed human-discernible content of a printed document comprising a sheet having a machine-readable pattern adapted to enable the position of a digital pattern reading device to be determined and said human-discernible content with
 - (ii) the identity of a sheet upon which the content is printed, the method comprising:
 - printing the content onto a sheet using a printer, said sheet comprising a pre-patterned sheet that has been pre-printed with said pattern;
transferring a machine-readable identity code between said printer and said sheet at around the time of printing said content; and
 - storing a correlation between said identity code and said digital electronic version in computer memory.
2. A method according to claim 1 wherein said identity code is read from said sheet by said printer.
3. A method according to claim 1 wherein said identity code is printed on said sheet by said printer.
4. A method according to claim 3 wherein a plurality of sheets have the same pre-printed pattern and are given individual identities by using said printer to apply different machine-readable identity codes to each of them at around the time of printing each sheet.
5. A method according to claim 1 wherein said machine-readable identity code comprises at least one code from the group:
 - (i) a pattern of dots;
 - (ii) a pattern of lines;
 - (iii) a pattern of printed objects whose positions and/or shapes code for an identity;
 - (iv) a position determining pattern;
 - (v) a bar code.

6. A method according to claim 1 wherein a content printer which prints said content onto said pre-patterned sheet has a pattern reading device, and wherein said content printer acquires data from said pre-printed
5 pattern on the said sheet that is to be printed with content, in order to enable the identity of pattern on said sheet to be established, thereby enabling said association to be made in computer memory; said content printer uses data from a digital electronic version of content to print said content onto said pre-patterned sheet; and wherein said association is made
10 in computer memory between said digital electronic version of said content and said identity of pattern.

7. A method according to claim 6 wherein said pre-printed pattern is associated in computer memory with specific digital electronic content and
15 wherein upon recognition of said pattern using data acquired by said pattern reading device of said content printer, said specific digital electronic content is caused to be printed onto said pre-patterned sheet as human-discernible content.

20 8. A method according to claim 7 wherein different users have different pattern associated with them and wherein upon recognition of their pattern from data from said content printer's pattern reading device said content printer is caused to print user-specific content onto said sheet.

25 9. A method according to claim 2 wherein said human-discernible content comprises document-type content and user-specific content, wherein one from the group:

- (i) document-specific content; and
- (ii) user-specific content

30 is selected by a user, and the other from said group is obtained from a predetermined correlation between said identity code that has been read by said printer and a digital electronic version said content.

10. A method of associating in computer memory a digital electronic
35 version of printed human discernible content of a printed document with a

position in a pen or other digital device readable pattern printed on said document, the method comprising:

introducing into a content printer a page of pre-patterned digital paper that has been pre-printed with a position-determining pattern, said
5 pattern being adapted to enable a digital pen to acquire information from said pattern to enable the position of said pen on said pattern to be determined;

printing said content on said digital paper using said content printer;

10 using said content printer to perform an act at substantially the time of printing said content onto said pre-patterned paper, in addition to printing content, that is instrumental in associating in computer memory, a digital electronic version of said content with an identity of the particular sheet of digital paper upon which said content is printed,

15 said association not being essentially dependent upon a knowledge of the order of pages of digital pages in the printer, prior to a printing operation.

11. A method according to claim 10 wherein said act comprises
20 transferring an identity code identifying said printed document between said printer and said printed document: either from the printer to the document, or from the document to the printer.

12. A method of associating in computer memory a digital electronic
25 version of printed human discernible content of a printed document with an identity code adapted to identify said document, the method comprising:

using a plurality of pages of pre-patterned digital paper that have been pre-printed with a position-determining pattern, said pattern being adapted to enable a digital pen to acquire information from said pattern to
30 enable the position of said pen on said pattern to be determined;

printing said content on said digital paper using a content printer;

using said content printer to be instrumental in conveying an identity code to or from the paper;

and associating in computer memory, using said code transferred, at
35 the time of printing said content onto said pre-patterned paper, a digital

electronic version of said content with the identity code for the particular sheet of digital paper upon which said content is printed.

13. A method as claimed in claim 12 wherein an identity code adapted to distinguish a specific sheet of pre-pattern digital paper is printed onto said specific sheet as part of an operation of printing said content onto said specific sheet, said identity code being readable by a digital pen and being capable of being used to distinguish data acquired by a digital pen from said specific sheet from data acquired by said pen from other sheets of pre-patterned paper having the same position-determining pattern on them as does said specific sheet.

14. A method according to claim 12 wherein an identity code adapted to distinguish a specific sheet of pre-patterned digital pattern is printed on said specific sheet in an operation prior to printing said content onto said specific sheet, and wherein a content printer which prints said content onto said pre-patterned paper has an identity code reading device, said content printer being capable of acquiring data from said identity code, said identity code being capable of being used to distinguish data acquired by a digital pen from said specific sheet from data acquired by said pen from other sheets of pre-patterned paper having the same position-determining pattern on them as does said specific sheet, to enable said association to be made between said digital electronic version of said content and said identity code.

15. A method according to claim 12 wherein a plurality of different identity codes are printed on a respective plurality of pre-patterned sheets each having the same pre-printed position-determining pattern, said identity codes enabling a digital pen to acquire sheet identity data to enable data acquired from each sheet to be distinguished from data acquired from other sheets.

16. A method according to claim 14 wherein said identity code is associated in computer memory with specific digital electronic content and wherein upon recognition of said identity code using data acquired by said identity code reading device of said content printer, said specific digital

electronic content is caused to be printed onto said pre-patterned sheet as human discernible content.

17. A method according to claim 16 wherein different users have
5 different identity codes associated with them and wherein upon recognition of their identity code from data from said content printer's identity code reading device said content printer is caused to print user-specific content onto said sheet.

10 18. A method according to claim 12 wherein said identity code is printed in an area of said pre-patterned paper which is from the group:

- (i) free of pattern;
- (ii) substantially free of pattern.

15 19. A method according to claim 15 wherein an area of said sheets from the group:

- (i) all of a surface of each of the sheets;
 - (ii) substantially all of a surface of each of the sheets;
 - (iii) at least half of the surface area of each of the sheets;
 - 20 (iv) at least a tenth of the surface area of each of the sheets;
- are pre-printed with pattern.

20. A method according to claim 12 wherein said pre-printed pattern is printed using a first printer and wherein said content and said identity code
25 are printed by a second, different, printer.

21. A method according to claim 20 wherein said second printer is
(i) not capable of printing said pattern satisfactorily; or
(ii) configured not to be capable of printing said pattern satisfactorily.

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22. A method according to claim 1 wherein said pre-printed pattern is printed using a first printer and wherein said content is printed using a second, different, printer.

35 23. A method according to claim 22 wherein said first printer has substantially better print resolution than does said second printer.

24. A method according to claim 23 wherein pre-printed digital paper is taken from said first printer and put into a plurality of second printers.

5 25. A sheet of digital paper having a position-determining pattern, readable by a digital pen, printed at a first resolution, and an identifying code, also readable by a digital pen, printed at a second resolution.

10 26. A sheet of digital paper according to claim 25 wherein the first resolution is higher than the second resolution.

27. A sheet of digital paper according to claim 25 comprising human discernible content printed at a lower resolution than said first resolution.

15 28. A sheet of digital paper having a position-determining pattern, readable by a digital pen and an identifying code, also readable by a digital pen, said code being something other than said position-determining pattern itself.

20 29. A plurality of sheets of digital paper, each having the same position-determining pattern, readable by a digital pen, printed at a first resolution, and each also having a unique identifying code printed on them at a second resolution, the identifying codes being readable by a digital pen and adapted to distinguish data from one sheet from data from another sheet.

25 30. A plurality of sheets of digital paper according to claim 29 wherein the first resolution is higher than the second resolution.

30 31. A digital printer having a stack of pre-patterned digital paper in a paper supply, said stack of paper comprising a plurality of sheets of digital paper having a digital position-determining pattern pre-printed on them adapted to enable a digital pen to acquire information from the pattern to enable the position of the pen relative to the pattern to be determined, and wherein the printer is adapted to be linked to a computer for receiving
35 printing commands from the computer and wherein the sheets of pre-printed paper are stacked in an order that is not known to the computer.

32. A printer according to claim 31 wherein the stack of paper is from the group:

- (i) sheets of paper each having the same pattern on them;
- 5 (ii) sheets of paper each having different pattern on them;
- (iii) sheets of paper each having the same pattern on them and each having a different pre-printed unique identifier;
- (iv) sheets of paper each having different pattern on them and each having a different pre-printed unique identifier.

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33. A digital printer having a stack of pre-patterned digital paper in a paper supply, said stack of paper comprising a plurality of sheets of digital paper having a digital position-determining pattern pre-printed on them adapted to enable a digital pen to acquire information from the pattern to
15 enable the position of the pen relative to the pattern to be determined, and wherein the sheets of pre-patterned paper are stacked with undetermined pattern upon them, and wherein the sheets of pre-patterned paper have the same pattern on them.

20 34. A network comprising a computer and a digital printer, the printer having a stack of pre-patterned digital paper in a paper supply, said stack of paper comprising a plurality of sheets of digital paper having a digital position-determining pattern pre-printed on them adapted to enable a digital pen to acquire information from the pattern to enable the position of the
25 pen relative to the pattern to be determined, wherein the computer does not yet have an association in computer memory between a memory file and the pattern of any specific sheet of pre-patterned paper in said printer.

30 35. A network according to claim 34 wherein said printer is adapted to apply an identifying code to said pre-patterned sheets when they are printed with content, and wherein said computer is adapted to associate each respective identity code with an electronic version of whatever content is printed onto respective said sheets.

35 36. A network according to claim 34 wherein said printer is adapted to read said pre-printed pattern and to provide pattern-identifying data to said

computer to associate in computer memory the region of pattern, or identity of pattern, printed upon each sheet with the electronic version of content printed on each sheet.

5 37. A network according to claim 34 wherein said printer is adapted to read a pre-printed identity code and to provide identity code-identifying data to said computer to associate in computer memory the identity code printed upon each sheet with the electronic version of content printed on each sheet.

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38. Apparatus adapted to print documents comprising human readable content and digital pen-readable pattern adapted to enable the position of a digital pen on the pattern to be determined, the apparatus comprising:

- (i) a content printer;
- 15 (ii) a control processor;
- (iii) a computer content memory accessible by said processor and containing an electronic version of content to be printed;
- (iv) a paper store provided with said printer and adapted to receive a plurality of sheets of pre-patterned paper pre-printed with said pattern;
- 20 (v) software accessible to said processor and runnable on said processor adapted to cause said printer to print said electronic version of said content onto said pre-patterned paper from said paper store;
- (vi) pattern-to-electronic memory location software accessible by said processor and runnable on said processor;
- 25 said pattern-to-electronic memory location software when running on said processor causing a concordance to be established in a computer memory between the location in content memory of an electronic version of content and the position in pattern space of the pattern of the sheet upon which the content is printed by the processor, the concordance for sheets of pre-
- 30 patterned paper between the location in computer memory and the position in pattern space at which content corresponding to said electronic content is printed being established at the time of a print operation using an act performed by the printer to interact with the sheets of paper that are printed with content, in addition to printing the content, the act comprising an act
- 35 from the group:

- (i) printing a machine-readable identity code onto the paper;

- (ii) reading an identity code from the sheets of paper; and
- (iii) another positive act involving an interaction between the printer and the sheets of paper to transfer an identity code between the printer/paper.

- 5 39. Apparatus adapted to print documents comprising human readable content and digital pen-readable pattern adapted to enable the position of a digital pen on the pattern to be determined, the apparatus comprising:
- (i) a content printer;
 - (ii) a control processor;
 - 10 (iii) a computer content memory accessible by said processor and containing an electronic version of content to be printed;
 - (iv) a paper store provided with said printer and adapted to receive a plurality of sheets of pre-patterned paper pre-printed with an identifying code;
 - 15 (v) software accessible to said processor and runnable on said processor adapted to cause said printer to print said electronic version of said content onto said pre-patterned paper from said paper store;
 - (vi) pattern-to-electronic memory location software accessible by said processor and runnable on said processor;
 - 20 said pattern-to-electronic memory location software when running on said processor causing a concordance to be established in a computer memory between the location in content memory of an electronic version of content and the identity of the identifying code of the sheet upon which the content is printed by the processor, the concordance for sheets of pre-patterned
 - 25 paper between the location in computer memory and the identity of the identifying code on which content corresponding to said electronic content is printed being established at the time of a print operation, using an act performed by the printer to interact with the sheets of paper that are printed with content in addition to printing the content, the act comprising an act
 - 30 from the group:
 - (i) printing an identity code onto the sheets of paper;
 - (ii) reading an identity code from the sheets of paper; and
 - (iii) another positive act involving an interaction between the printer and the sheets of paper to transfer an identity code between the printer/paper.

40. Apparatus adapted to print documents comprising human readable content and digital pen-readable pattern adapted to enable the position of a digital pen on the pattern to be determined, the apparatus comprising:

- (i) a content printer;
- 5 (ii) a control processor;
- (iii) a computer content memory accessible by said processor and containing an electronic version of content to be printed;
- (iv) a paper store provided with said printer and adapted to receive a plurality of sheets of pre-patterned paper pre-printed with said pattern;
- 10 (v) software accessible to said processor and runnable on said processor adapted to cause said printer to print said electronic version of said content onto said pre-patterned paper from said paper store;
- (vi) pattern-to-electronic memory location software accessible by said processor and runnable on said processor;
- 15 said pattern-to-electronic memory location software being adapted to cause a digital pen-readable identity code to be printed upon sheets of digital paper when content is printed upon them, and to establish a concordance between the identity code printed on a sheet of pre-patterned paper and the content memory location of content printed on said sheet of paper.

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41. Apparatus according to claim 38 wherein said printer has a pattern reader adapted to provide data to said processor to enable the identity or region of pattern pre-printed on a particular sheet of patterned paper to be established, and wherein said pattern-to-electronic memory location
25 software is adapted to use data from said printer's pattern reader to link pattern space positions or identities with associated locations in computer content memory, thereby linking electronic versions of content printed onto particular sheets of paper with the pattern space for which the pre-printed pattern of those sheets code.

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42. Apparatus according to claim 39 comprising a network, said pattern-to-electronic memory software, said computer memory, and said processor being provided remote from, but networked to, said printer.

35 43. A data set comprising an association of (i) a computer memory addresses relating to content printed on a plurality of sheets of digital

patterned paper having the same position-determining pattern printed upon them, and (ii) an identity-distinguishing code of each of said plurality of sheets, each sheet having a sheet-differentiating identity-distinguishing code, each identity-distinguishing code being associated respectively with
5 each of said plurality of sheets of digital patterned paper.

44. A data set according to claim 43 wherein there is also an association between digital pen-acquired pen stroke data representing digital pen movements on respective sheets of digital paper and the identity code or
10 computer memory address corresponding to the particular sheet of digital paper, or area of the sheet of digital paper, from which the pen stroke data was acquired.

45. A data set comprising an association of a computer memory
15 addresses relating to content printed on a plurality of sheets of pre-patterned paper, pre-patterned with pen position-determining pattern, and a printer-read identity of particular respective regions of pattern space associated with each respective page upon which the content is printed.

20 46. Software which, when run on a computer processor having access to a computer memory containing electronic versions of human discernible content adapted to be printed by a digital printer upon pre-patterned digital paper, the pattern being adapted to enable a digital pen to acquire data to enable the position of the pen in the pattern to be established,

25 is adapted to cause an association to be made between a computer memory address containing specific content printed upon a specific sheet of digital paper with an identity for that specific sheet of digital paper;

and wherein said software is adapted to establish the identity of a page upon which specific content is printed and to cause said association to
30 be made pursuant to instructions to print said content being received by said processor, and without requiring prior determination of the identity of the sheets of patterned paper and the order in which they will be presented for printing upon.

35 47. A method of producing sheets of paper having both human readable content and pen-readable position-determining pattern printed on them

comprising printing the pattern on said sheets of paper using a first printer capable of printing the pattern satisfactorily to create pre-patterned paper, transferring the pre-patterned paper to a second printer, and printing the content with the second digital printer, and also using the second digital
5 printer to transfer identity data between the second digital printer and each sheet of paper, thereby causing there to be an association between an electronic digital version of the content printed on the pre-patterned paper and an identity of the sheet of paper upon which it is printed.

10 48. A method according to claim 47 wherein said second printer either:
(i) has a pattern reader and reads pattern on the sheets of paper to enable what content is printed on what pattern to be determined; and/or
(ii) prints distinct identity codes onto the pre-printed sheets thereby enabling a link between the content and the identity code to be established;
15 and/or
(iii) has an identity code scanner and reads a pre-printed distinct identity code on the sheets of paper to enable a link between the identity code and the content to be established.

20 49. A method of combining pen strokes made upon a digital sheet having a pen position-determining pattern printed upon it and human discernible content printed upon it with an electronic version of said content held in a computer memory at a specific memory address, said method comprising using a digital pen to acquire pen stroke information relating to pen strokes
25 made in the pattern, and also using said pen to acquire an identity code for said sheet, and using pen-acquired identity code information to select an appropriate corresponding computer memory address so as to cause said pen stroke information to be interacted with said electronic version of said content.

30 50. A method according to claim 49 wherein said identity code is from the group:
(i) said position-determining pattern itself;
(ii) a code that is not position-determining pattern, but which is
35 pen-readable.

51. A method according to claim 49 wherein said identity code itself comprises a region of pattern, but a region separate from and non-contiguous with said pen position-determining pattern.

5 52. A method of combining pen strokes made with a digital pen upon a digital sheet having pen position-determining pattern printed upon it and human-discernible content printed upon it comprising:

printing said sheet with said pattern in a pre-patterning operation to create a pre-patterned sheet;

10 subsequently printing said content onto said pre-patterned sheet using a content printer to create a content-printed digital sheet;

transferring an identity code between said content printer and said sheet to enable the identity of said sheet to be established in a subsequent pen-on-sheet writing operation, the transfer of said identity code occurring

15 in the same time frame as printing said content onto said sheet;

associating in computer memory a link between said identity code and an electronic version of said content that was printed on said sheet;

using a digital pen to make pen strokes on said content-printed sheet;

20 conveying pen-acquired pen-position data, relating to the position of said pen in said pattern to a processor;

using the digital pen to acquire said identity code from said content-printed sheet;

the processor using the pen-acquired identity code, the pen acquired pen-position data, and the link between said identity code and said

25 electronic version of said content to combine said pen strokes with said content.

53. A method of using a plurality of sheets of digital paper with a digital pen to produce different distinct electronic documents comprising using a
30 plurality of sheets of digital paper which each have the same position-determining pattern on them, and enabling the sheets to be distinguished from each other by printing an identifying pen-readable identity upon them at the time of printing human discernible content upon said sheets.

35 54. A method of using digital paper having a position determining pattern pre-printed upon it comprising using a printer to print both human

discernible content upon the pre-patterned paper and to read one of (i) the identity of the pattern of the paper upon which specific content is printed, and (ii) a page identity code carried by pages of said pre-patterned paper so as to link in computer memory the content with pattern position or identity
5 code.

55. A printer having a camera or sensor adapted to acquire information from one of the group:

- 10 (i) a position-determining pattern printed on paper upon which the printer prints;
- (ii) an identifying code printed on paper upon which the printer prints.

56. A printer according to claim 55 arranged to print a document having document-type content and user-specific content, wherein said printer has
15 user input means arranged to enable the user to input a selection of a document-type content or a user-type content, and the printer also having content-acquisition means adapted to acquire the other of said document type content or user-type content from an external source, using a pre-determined association between information acquired from the camera or
20 sensor and a digital electronic version of the associated content.

57. Use of a printer to print human discernible content onto a pre-patterned sheet of paper, pre-patterned with a position-determining pattern adapted to enable a digital pen to acquire data relating to the position of the
25 pen in the pattern, and also to perform a linking act which is instrumental in linking the identity of the sheet upon which specific content is printed and the address in computer memory at which electronic content, equivalent to said printed content, is stored.

30 58. Use according to claim 57 wherein said linking act comprises at least one of:

- (i) said printer printing an identity code upon said sheet, said identity code being readable by a digital pen;
- (ii) said printer having a pattern data acquirer and acquiring data from
35 said pattern pre-printed upon said sheet of paper;

(iii) said printer having an identity code data acquirer and acquiring data from an identity code upon said sheet, said identity code also being readable by a digital pen.

5 59. A method of associating in computer memory a digital electronic version of printed human discernible content of a printed document with a position in a pen-readable pattern printed on said document, the method comprising:

10 using a plurality of pages of pre-patterned digital paper that have been pre-printed by a first printer with a position-determining pattern, said pattern being adapted to enable a digital pen to acquire information from said pattern to enable the position of said pen on said pattern to be determined;

15 printing said content on said digital paper using a different, content printer, said content printer using data from a digital electronic version of content to print said content onto said pre-patterned sheet as human discernible content, and wherein said first printer has substantially better print resolution than said content printer, and said content printer is not capable of printing said pattern satisfactorily;

20 using said content printer to be instrumental in associating in computer memory, at the time of printing said content onto said pre-patterned paper, a digital electronic version of said content with the pattern of the particular sheet of digital paper upon which said content is printed, said content printer acquiring data from the pre-printed pattern of said sheets, said content printer having a pattern reading device;

25 content printer-acquired pattern-related data enabling the identity of pattern on said sheet to be established, thereby enabling association of said digital electronic version and said position in said pattern to be made in computer memory.

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60. A method according to claim 59 wherein said human-discernible content comprises document-type content and user-specific content, wherein one from the group of

- 35 (i) document-type content; and
(ii) user-specific content

is selected by a user, and the other from said group is obtained from a predetermined association between said content printer-acquired pattern-related data and a digital electronic version of the associated content.

- 5 61. A method of causing an association in computer memory between a digital electronic version of printed human discernible content of a printed document and an identity code printed on said document, the method comprising:
- 10 using a plurality of pages of pre-patterned digital paper that have been pre-printed by a first printer with a position-determining pattern, said pattern being adapted to enable a digital pen to acquire information from said pattern to enable the position of said pen on said pattern to be determined, and said pages of digital paper being in an undetermined sequence;
- 15 printing said content on said digital paper using a different, content printer;
- using said content printer to be instrumental in associating in computer memory, at the time of printing said content onto said pre-patterned paper, a digital electronic version of said content with the
- 20 identity code of the particular sheet of digital paper upon which said content is printed;
- wherein said association comprises a step from the group:
- (i) printing a plurality of different identity codes on a respective plurality of pre-patterned sheets each having the same pre-printed position-
- 25 determining pattern, said identity codes being printed by said content printer as part of an operation of printing said content onto said respective sheets, said identity codes being capable of being used to distinguish data acquired by a digital pen from a said respective sheet of pre-patterned paper from data acquired by said pen from other sheets of pre-patterned
- 30 paper having the same position-determining pattern;
- (ii) acquiring data from said position-determining pattern or from an identity code pre-printed on said sheets using a printer which prints said content onto said pre-patterned paper, said printer having a pattern or identity code reading device, printer-acquired pattern or identity code-
- 35 related data enabling the identity of said sheet to be established, thereby enabling said association to be made in computer memory.

62. A method according to claim 61 wherein said first printer has substantially better print resolution than said content printer, and said content printer is not capable of printing said pattern satisfactorily.

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63. Apparatus adapted to associate printed digital pattern with equivalent digital documents comprising:

printing means arranged to print content corresponding to a digital document on a sheet of paper having pre-printed digital pattern;

10 scanning means arranged to scan a region of said pre-printed digital pattern as said content is being printed;

processing means arranged to process said scanned region of digital pattern and determine a location of said scanned region within a digital pattern space;

15 associating means arranged to associate said location of scanned region of digital pattern with said digital electronic version of content; and

storing means arranged to store said association in computer memory.

20 64. Apparatus adapted to associate an identity code with equivalent digital documents comprising:

printing means arranged to print content corresponding to a digital document onto a sheet of paper having pre-printed digital pattern and arranged to print respective identity codes onto respective sheets of pre-patterned paper, and

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processing means arranged to store in computer memory a relationship between content printed onto a specific sheet of paper and the identity code printed on said specific sheet of paper, and said processing means is also adapted to process data derived from said sheets of paper to determine the identity of a sheet of paper from said identity code and to determine the movement of a digital pen on patterned areas of said pre-printed pattern on said sheet, and to associate said identity code and digital-pen movement data from a specific sheet of paper with a specific electronic document corresponding to said identity code.

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65. Apparatus adapted to associate an identity code with equivalent digital documents comprising:

printing means arranged to print content corresponding to a digital document on a sheet of paper having pre-printed digital pattern; and a pre-printed identity code;

scanning means arranged to scan said pre-printed identity code as said content is being printed;

processing means arranged to process said scanned identity code and associate said identity code with said digital electronic version of content; and

storing means arranged to store said association in computer memory.

66. A printer provided with a camera or other scanner or sensor adapted to obtain data from sheets of paper in the printer to enable the identity of the sheets of paper to be established automatically by a computer, the printer having a processor and software adapted to cause said data obtained from said sheets to be conveyed out of said printer electronically for receipt by a linked external computer.

67. A sheet of paper having a position determining pattern printed over an area of a surface of the sheet;

said pattern comprising a pattern from which a digital pen can acquire data to enable the position of the pen in the pattern to be determined;

said area comprising an area from the group:

- (i) all or substantially all of the area of a plan surface of the sheet;
- (ii) a substantial area of a plan surface of the sheet;

wherein said area has delineated within it a pattern free region adapted to have printed upon it an identity code.

68. A sheet of paper having a position determining pattern printed over an area of a surface of the sheet;

said pattern comprising a pattern from which a digital pen can acquire data to enable the position of the pen in the pattern to be determined;

said area comprising an area from the group:

- (i) all or substantially all of the area of a plan surface of the sheet;
- (ii) a substantial area of a plan surface of the sheet;

wherein said area has delineated within it a pattern free region adapted to have printed upon it an identity code and wherein said sheet of paper has a machine-readable identity code on it, in addition to said pattern.

69. A sheet of paper having a position determining pattern printed over an area of a surface of the sheet;

said pattern comprising a pattern from which a digital pen can acquire data to enable the position of the pen in the pattern to be determined;

said area comprising an area from the group:

- (i) all or substantially all of the area of a plan surface of the sheet;
- (ii) a substantial area of a plan surface of the sheet;

wherein said area has delineated within it a pattern free region adapted to have printed upon it an identity code and wherein said sheet of paper has a machine-readable identity code on it, in addition to said pattern, said identity code being disposed in said pattern-free region.

70. A method of generating an electronic record of a printed document, comprising the steps of:

printing an image on a sheet;

substantially during the printing step, printing on, or reading from the sheet identification data for identifying the printed image, the identification data being subsequently machine-readable from the printed sheet; and

storing the identification data and an electronic record of the image, mutually associated, in computer memory.

71. A method of associating in computer memory a digital electronic version of printed human-discernible content of a printed document with the identity of a sheet of paper having machine-readable pattern printed upon it, and upon which said content is printed, the method comprising

transferring information defining an identity code for said sheet of paper between the sheet of paper and a printer at the time of printing the content onto the paper.